

What is claimed is:

1. A controlling method for data transmission comprising:

providing a system bus for connecting a first transmission channel and a second transmission channel with a command processor;

adjusting a transmitting direction of said system bus according to a transmitting direction of said second transmission channel; and

proceeding data processing procedures of said second transmission channel according said transmitting direction of said second transmission channel, wherein parts of data processing procedures of said first transmission channel will last during a interval between said system bus adjusting said transmitting direction and said data processing procedures of said second transmission channel start on.

2. The method as recited in claim 1, wherein said parts of data processing procedures of said first transmission channel during said interval comprising:

caching and decoding data in said first transmission channel while the data transmitted from said first transmission channel to said system bus.

3. The method as recited in claim 1, wherein said parts of data processing procedures of said first transmission channel during said interval comprising:

encoding and storing data to a storage media while the data transmitted from said system bus to said first transmission channel.

4. A method for controlling a caching location and a processing timing of data in a data transmission channel module comprising:

determining a data transmission channel of said data transmission channel module according to a command issued by a command processor,

and parts of processing procedure of a first transmission channel of said data transmission channel module will last for a time interval even though a second transmission channel of said data transmission channel module obtains an ownership of a common transmitting path.

5. The method as recited in claim 4 comprising:

utilizing said first transmission channel for caching a first source data when a first command issued by said command processor is read; and

utilizing said second transmission channel for caching a second source data when a second command issued by said command processor is write, wherein said second command performed after said first command.

6. The method as recited in claim 5, further comprising:

utilizing said first transmission channel for caching a third source data when a third command issued by said command processor is read, wherein said third command performed after said second command, and said caching location of said third source data follows said caching location of said first source data.

7. The method as recited in claim 5, further comprising:

utilizing said second transmission channel for caching a third source data when a third command issued by said command processor is write, wherein said third command performed after said second command, and said caching location of said third source data follows said caching location of said second source data.

8. The method as recited in claim 4 comprising:

utilizing said first transmission channel for caching a first source data when a first command issued by said command processor is read; and

utilizing said second transmission channel for caching a second source

data when a second command issued by said command processor is read, wherein said second command performed after said first command.

9. The method as recited in claim 4 comprising:

utilizing said first transmission channel for caching a first source data when a first command issued by said command processor is write; and

utilizing said second transmission channel for caching a second source data when a second command issued by said command processor is read, wherein said second command performed after said first command.

10. The method as recited in claim 9, further comprising:

utilizing said first transmission channel for caching a third source data when a third command issued by said command processor is write, wherein said third command performed after said second command, and said caching location of said third source data follows said caching location of said first source data.

11. The method as recited in claim 4 comprising:

utilizing said first transmission channel for caching a first source data when a first command issued by said command processor is write; and

utilizing said second transmission channel for caching a second source data when a second command issued by said command processor is write, wherein said second command performed after said first command.

12. A device apply to an optoelectronic system as a data transmission channel module comprising:

a first transmission channel bounded by a pair of pipe indices for caching and transmitting data with a first processing procedures; and

a second transmission channel bounded by a pair of pipe indices for caching and transmitting data with a second processing procedures.

13. The device as recited in claim 12, wherein said optoelectronic system is a DVD Player or a DVD Recorder.

14. The device as recited in claim 12 comprising:

- a bus coupling said first transmission channel and said second transmission channel to a command processor for data transmission.

15. The device as recited in claim 12, wherein said first transmission channel and said second transmission channel coupling to a channel CODEC for data encoding and decoding.

16. The device as recited in claim 12, wherein if said first processing procedures comprising a data decoding, said pair of pipe indices comprising:

- a write pipe index for indicating amount of cached data in a corresponding transmission channel with said first processing procedures;

- a decode pipe index for indicating amount of decoded data; and

- a host-pipe sector data send index for indicating a mount of data sent from said corresponding transmission channel to a command processor.

17. The device as recited in claim 12, wherein if said first processing procedures comprising a data encoding, said pair of pipe indices comprising:

- a host-pipe sector data get index for indicating amount of data sent from a command processor to corresponding transmission channel;

- an encode pipe index for indicating amount of encoded data; and

- a record pipe index for indicating amount of encoded data sent from corresponding transmission channel to a storage medium.